

Notes:  
Baseplate: Nickel plated copper;  
electrically isolated  
Pins: Nickel plated copper

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	1.995	2.005	50.67	50.93	
B	0.300	0.325	7.62	8.26	
C	0.495	0.505	12.57	12.83	
D	0.182	0.192	4.62	4.88	Dia.
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.500	1.525	38.10	38.70	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60	to Lead CL
L	0.490	0.510	12.45	12.95	
M	0.330	0.350	8.38	6.90	
N	0.175	0.195	4.45	4.95	Dia.
P	0.035	0.045	0.89	1.14	
Q	0.445	0.455	11.30	11.56	
R	0.890	0.910	22.61	23.11	

T0-249

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST16035*	35V	35V
FST16040*	40V	40V
FST16045*	45V	45V
FST16050*	50V	50V

\*Add the Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- VRRM — 35 to 50 Volts
- High Surge Capacity
- Reverse Energy Tested

### Electrical Characteristics

Average forward current per pkg	I <sub>F(AV)</sub> 160 Amps	T <sub>C</sub> = 115°C, Square wave, R <sub>θJC</sub> = 0.5°C/W
Average forward current per leg	I <sub>F(AV)</sub> 80 Amps	T <sub>C</sub> = 115°C, Square wave, R <sub>θJC</sub> = 1.0°C/W
Maximum surge current per leg	I <sub>FSM</sub> 1200 Amps	8.3 ms, half sine T <sub>J</sub> = 175°C
Max repetitive peak reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHz, 25°C, 1 μsec Square wave
Max peak forward voltage per leg	V <sub>FM</sub> .58 Volts	I <sub>FM</sub> = 80A: T <sub>J</sub> = 175°C*
Max peak forward voltage per leg	V <sub>FM</sub> .74 Volts	I <sub>FM</sub> = 80A: T <sub>J</sub> = 25°C*
Max peak reverse current per leg	I <sub>RM</sub> 30 mA	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 2 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance per leg	C <sub>J</sub> 2300 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-55°C to 175°C
Operating junction temp range	T <sub>J</sub>	-55°C to 175°C
Maximum thermal resistance per leg	R <sub>θJC</sub>	1.0°C/W Junction to case
Maximum thermal resistance per pkg.	R <sub>θJC</sub>	0.5°C/W Junction to case
Typical thermal resistance (greased)	R <sub>θCS</sub>	0.1°C/W Case to sink
Mounting torque		15 — 20 inch pounds
Weight		2.5 ounces (71 grams) typical

# FST16035 — FST16050

Figure 1  
Typical Forward Characteristics — Per Leg

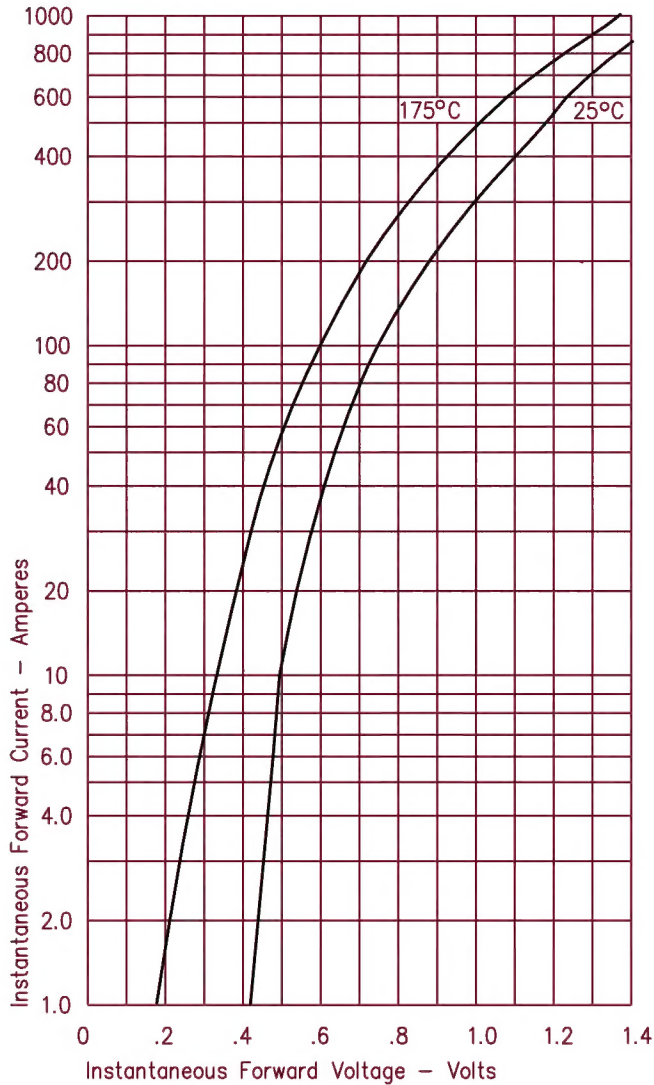


Figure 3  
Typical Junction Capacitance — Per Leg

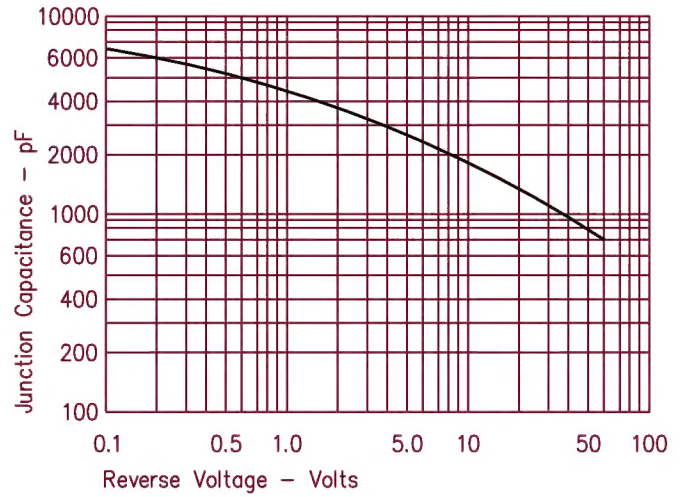


Figure 4  
Forward Current Derating — Per Leg

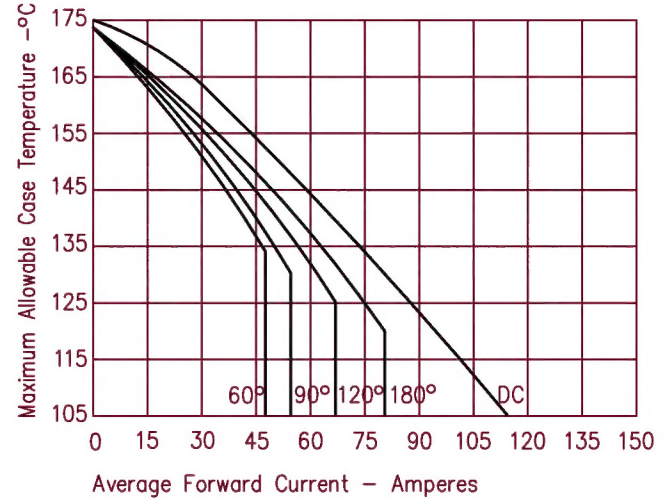


Figure 2  
Typical Reverse Characteristics — Per Leg

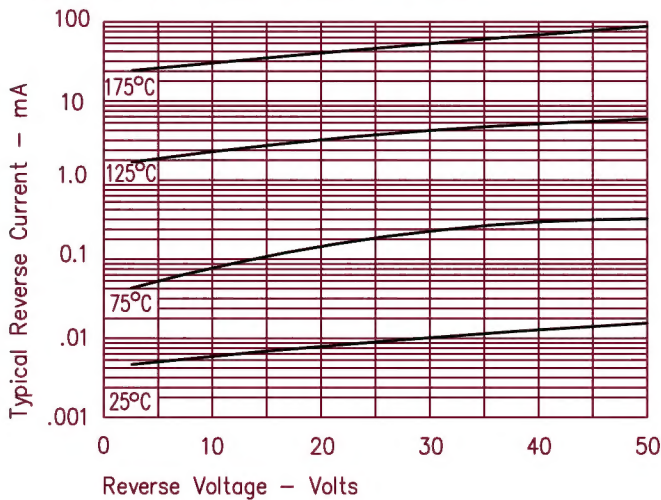


Figure 5  
Maximum Forward Power Dissipation — Per Leg

